

APPLICANTS: Sharon BARKAI et al.  
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### AMENDMENTS TO THE CLAIMS

Kindly amend the claims as follows:

1. (currently amended) A method of determining the path that a network message would take among network devices in a computer network, the method comprising:

providing a plurality of device components to model a physical computer network, wherein each of said device components ~~modeling~~ model an aspect of a network device of said physical computer network;

simulating sending a network message within said model of said computer network from a source device component modeling one of said network devices of said physical network to a destination device component modeling another of said network devices of said physical network along a device component path, wherein said simulated message only traverses any of said device components which model said network devices of said physical computer network; and

recording the device components traversed by said simulated message within said model of said physical computer network, thereby determining said path that said network message would take among said network devices in said physical computer network.

2. (previously presented) A method according to claim 1 and further comprising providing said model comprising a plurality of agents, each agent corresponding to a different network element in said computer network comprising a plurality of network elements, and said plurality of device components (DC), each of said device components modeling at least one aspect of one of said network elements, said aspect being either of a physical and a functional characteristic of said network element, wherein each of said agents comprises a plurality of said device components, and wherein at least two of said device components within at least one of said agents are logically interconnected, each logical interconnection

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corresponding to either of a physical and a functional interconnection found within or between any of said network elements.

3. (previously presented) A method according to claim 1 wherein said simulating sending step comprises each device component along said device component path traversed by said message:

- identifying an intermediate device component along said device component path to which said message is to be passed; and

- passing said message and an identifier of said intermediate device component to an immediately next device component.

4. (original) A method according to claim 3 wherein said identifying step comprises identifying in accordance with network routing rules.

5. (original) A method according to claim 4 wherein said identifying step comprises identifying said intermediate device component within the same network layer.

6. (original) A method according to claim 3 and further comprising:

- receiving said message at said immediately next device component;

- if said message is received from a device component at a higher network layer:

- placing information onto an information stack as may be needed by any device component along said device component path to identify other device components along said device component path to which said message is to be passed; and

- if said message is received from a device component at a lower network layer:

- removing information from said information stack needed to identify a subsequent intermediate device component along said device component path to which said message is to be passed.

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7. (original) A method according to claim 6 wherein said identifying step comprises identifying using said removed stack information.

8. (original) A method according to claim 1 and further comprising checking at any of said device components along said device component path traversed by said message the validity of said path.

9. (new) A method according to claim 1 wherein each of said device components are configured to use message passing to independently and directly communicate with any neighboring or adjacent one of said device components, and wherein each of said device components receiving said simulated message is configured to decide to which other of said device components would a real message with the same characteristics as said simulated message be forwarded.